



**A RETROSPECTIVE STUDY ON THE MANAGEMENT OF OBSTRUCTIVE UROPATHY AMONG PREGNANT WOMEN IN A TERTIARY CARE HOSPITAL**

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**ABSTRACT**

Gestation alters kidney and urine system architecture and function, generating several symptoms and disorders. Functional or structural issues induce obstructed uropathy. Pregnancy may induce hydronephrosis, hydroureter, pyelonephritis, urolithiasis, pelviureteric junction (PUJ) blockage, bladder tumour, flank discomfort, fever, urine retention, hematuria, dysuria, and/or numerous symptoms. Physiological changes during in pregnancies must be categorised. We reviewed the medical records of 25 pregnant women with obstructive uropathy from September 2020 to September 2022. Participants averaged 26 + 4.2 years. Multigravid 80%. 84% and 76% had lower urinary tract pain. 76% were treated conservatively. 20% of 24% of interventional study participants needed DJ stents and 4% used PCN. Obstructive uropathy is a potentially reversible condition. Conservative therapy alone heals most pregnant obstructive uropathy patients.

**KEYWORDS :** Obstructive uropathy; pregnancy; conservative management; DJ stent; PCN; recurrence

**INTRODUCTION:**

Gestation often modifies kidney and urinary system architecture and physiology, causing numerous symptoms and clinical diseases. Pregnancy increases renal vascular and interstitial volume by 1-1.5 cm and kidney volume by up to 30% [1].

The number of nephrons stays constant, while the GFR increases by 40-50% [2]. Progesterone relaxes smooth muscles and the larger gravid uterus at the pelvic brim compresses the ureters, dilating the renal pelvises and calyceal systems. Due to physiological dextrorotation of the gravid uterus and engorged right ovarian vein draining into renal vein on the right side, 80% of pregnant women have hydroureter and hydronephrosis, which is more apparent on the right than the left [3].

Pregnancy may induce hydronephrosis, hydroureter, pyelonephritis, urolithiasis, pelviureteric junction (PUJ) blockage, bladder tumour, flank discomfort, fever, retention of urine, hematuria, dysuria, and other symptoms [4]. The mother's alterations in physiology must be distinguished.

Obstructive uropathy is urinary tract dysfunction that prevents normal urine flow [5]. Urinary tract obstruction may develop in renal pelvis, ureter, bladder, and urethra. Congenital and acquired factors may induce extraluminal or intraluminal urinary blockage. Urinary tract obstruction may occur at any age, even in utero. The calyces or urethral meatus might block. Scarring, stones, papillae sloughing, and blood clots produce intraluminal urinary tract blockage. Cancer stricture, enlarged uterus, trauma, and enlarged lymph nodes induce extraluminal ureter blockage. Location determines whether it obstructs unilaterally or bilaterally [6].

Pregnant women's obstructive uropathy treatment is subject to discussion [7]. This retrospective research examined the therapy of obstructed uropathy in pregnant women at our tertiary care hospital.

**METHODOLOGY**

To evaluate the management of Obstructive uropathy among pregnant women we conducted a hospital based retrospective study commencing from September 2020 to September 2022 in the Urology Unit, Department of General Surgery, Al-Ameen

Medical college Hospital (AMCH), Bijapur. The research began with institutional ethics committee approval. Written consents were taken. The research included all pregnant women diagnosed and treated for obstructive nephropathy who met inclusion (Pregnant women aged between 19 & 40 yrs) and exclusion criteria (Incomplete records, Co-existing non-obstructive nephropathy, Co-existing obstetric causes, severe coagulopathy). Patient case notes were used as data.

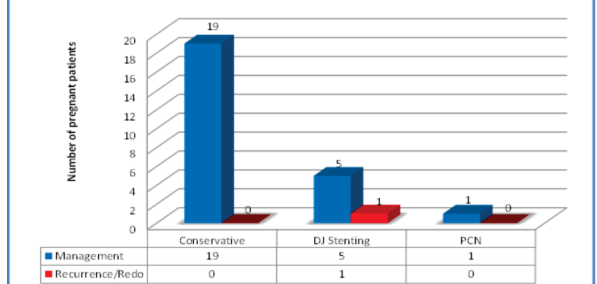
**RESULTS**

25 individuals met the inclusion/exclusion criteria. Participants ranged 26 + 4.2 years old. 80% were multigravida. 84% and 76% of patients experienced lower urinary tract discomfort and pain. 60% and 38% of research participants experienced hematuria and urinary tract infection. 76% were cautiously handled. 20% of the 24% of research participants who had interventional measures used DJ stents and 4% used PCN. Redo-stenting was warranted in 1 patient for recurring symptoms.

Table 1: Patient characteristics

Age, Mean+SD	26+ 4.2	
Gravida, n (%)	Primi	5 (20%)
	Multi	20 (80%)
Symptoms, n (%)	LUTS	21 (84%)
	Pain	19 (76%)
	Haematuria	15 (60%)
	Urinary retention	5 (20%)
	Urinary tract infection	7 (28%)
	Oliguria	6 (24%)
Others	9 (36%)	

Diagram 1: Management of Obstructive Uropathy in Pregnancy



**DISCUSSION**

Albeit its proper use, obstructive uropathy can also refer to mechanical or functional changes in the urinary tract that disrupt normal urinary flow [8]. Obstructive nephropathy has biochemical or clinical uraemia. Obstructive nephropathy causes 10% of acute renal failure and 4% of ESRD epidemiologically. Acute renal injury is reversible; chronic renal damage is permanent [9].

Pregnancy involves multisystemic anatomical and physiological changes. This retrospective research examined obstructive uropathy therapy in 25 pregnant women with obstructive nephropathy.

The study's mean age was 26+4.2 years. 80% were multigravid. Mandal D et al [10] discovered 45.45% were multigravida and 25-29 years old.

The duration, lateralization, and severity of obstructive nephropathy cause non-specific symptoms. Normal or high urine output does not rule out partial occlusion. 84% and 76% of research participants experienced lower urinary tract discomfort and pain. 60% and 38% of research participants experienced haematuria and urinary tract infection. Mandal D et al [10] discovered 90.9% dysuria, 100% abdominal discomfort, 78.7% urine retention, and 33.33% fever. Pregnancy is associated with LUTS include storage difficulties with urine frequency, nocturia, and urgency incontinence [11-13].

Obstructive uropathy management starts with identifying the obstruction. Our experience shows that gravid uterus ureteral compression causes obstructive uropathy most often. Removing the blockage quickly is the most crucial part of treating obstructive uropathy [14]. We aggressively restored urine flow in acute blockage patients. 76% of research participants were conservatively handled. 20% of the 24% of research participants who had interventional measures used DJ stents and 4% used PCN. Mandal D et al [10] showed that 72.72% of research participants had DJ stenting. In their research, hospitalisation, intravenous hydration, and antibiotics were conservative therapies. When conservative therapy failed, a double J stent was inserted, and patients were asymptomatic [10]. Conservative treatment is usually preferred. Urinary by-pass with antibiotic prophylaxis is needed when conservative therapy fails [15]. The severity and length of the blockage and infection determine renal recovery [16].

Two-thirds of obstructive uropathy patients have polyuria after blockage reversal. Polyuria, like acute tubular necrosis' polyuric phase, is a kidney reaction to restore euvolaemia and plasma concentrations. This 24-hour osmotic diuresis of retained fluid, urea, and other nitrogenous solutes resolves [17]. The study aforementioned treated most patients conservatively.

Previous research had shown that implanting a double J stent during pregnancy was risky and unsuccessful, yet we experienced no serious issues. Ringel et colleagues discovered that 32% of stents were removed prematurely due to unfavourable effects [18]. Only one patient in this study relapsed after starting treatment, and re-stenting improved their condition.

**CONCLUSION**

Obstructive uropathy is a possibly reversible illness. With conservative therapy alone, the majority of obstructive uropathy patients recover fully throughout pregnancy.

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